



in which the sum  $m+n+p+q$  is equal to 3,  $m=0, 1$  or  $2$ ,  $q=0, 1$  or  $2$ ,  $x=0$  or  $1$ ,  $p=0, 1$  or  $2$ ,  $R$  is a hydrocarbon group,  $X$  is a hydrogen atom, a hydrocarbon group or a group with formula  $\text{SiR}''_3$ , in which  $R''$  is a hydrocarbon group,  $Z$  is a hydrocarbon group optionally containing heteroatoms,  $\text{Cat}^+$  is a monovalent cation and  $A$  is a sulphur-containing group or a reactive group that can be transformed into a sulphur-containing group, said contact being made under conditions of pressure, temperature and acidity of the medium such that practically no phosphate, phosphonate, phosphinate or sulphate phase of said element  $M$  is formed.

Please add the following new claims:

Q2

16. Functionalized materials according to claim 2, comprising an organic sulphur-containing group selected from the group formed by thiols and derivatives thereof, said sulphonic acid groups and derivatives thereof.

17. Materials according to claim 16, in which the organic sulphur-containing group is selected from the group consisting of a thiol group with formula  $-\text{SH}$ , a sulphide group with formula  $-\text{S-R1}$  in which  $\text{R1}$  is a hydrocarbon residue, and a polysulphide group with formula  $-(\text{S})_y\text{-R1}$ , in which  $y$  is a number equal to 2 or more and  $\text{R1}$  is a hydrocarbon residue.

18. Materials according to claim 16, in which the organic sulphur-containing group is selected from the group consisting of a sulphonic acid group with formula  $-\text{SO}_3\text{H}$ , organic sulphonate groups with formulae  $-\text{SO}_3\text{R1}$  in which  $\text{R1}$  is a hydrocarbon residue, and a mineral sulphonate group with formulae  $-\text{SO}_3(\text{M}')_t$  in which  $\text{M}'$  is an element with valency  $t$  from the periodic table.

19. Materials according to claim 18, wherein said organic sulphur-containing group is said mineral sulphonate group of the formulae -  $\text{SO}_3(\text{M}')_n$  wherein  $\text{M}'$  is an alkali metal.

20. Materials according to claim 2, comprising a hydrocarbon chain of 1-24 carbon atoms bonding the phosphorous-containing group to the sulphur-containing group.

21. Materials according to claim 20, wherein the hydrocarbon chain bonding the phosphorous-containing group to the sulphur-containing group is an aromatic chain, an aliphatic chain, or a saturated aliphatic chain.

22. Materials according to claim 1, in which M designates an element from groups IB, IIB, IIIB, IVB, VB, VIB, VIIB, VIII, IIIA, IVA, the lanthanides or the actinides of the periodic table.

23. Materials according to claim 1, in which M is selected from the group consisting of titanium, zirconium, iron, aluminium, silicon and tin.

24. Materials according to claim 23, wherein M is titanium, zirconium or aluminium.

25. A process according to claim 10, in which the phosphorous-containing compound with formula I is a compound in which Z is a saturated divalent alkyl group containing 1 to 6 carbon atoms.

26. A process according to claim 10, in which the solvent for the phosphorous-containing compound is selected from the group consisting of tetrahydrofuran, dimethylsulphoxide, dichloromethane and water.

27. A process according to claim 10, in which the phosphorous-containing compound with formula I is a compound in which  $m=2$ ,  $q=1$  and  $n=p=\text{zero}$ .

28. A process according to claim 10, in which the phosphorous-containing compound with formula I employed is a compound in which  $n=2$ ,  $q=1$  and  $m=p=\text{zero}$ . -